(HBeAg) among pregnant women. In addition, newborns born to HBeAg -positive mothers received free hepatitis B immunoglobulin (HBIG). Since then, the coverage rate of HBV vaccination and HBIG immunoprophylaxis was about 85—95%. We assessed the impact of the vaccination strategy on the seroprevalence of HBsAg and HBeAg among pregnant women in Taiwan after its implementation.

Methods: We included pregnant women aged 15—45 years who gave birth in 1995 and 2006 for the study. The screening results of serum HBsAg and HBeAg in enrolled subjects were extracted from the National Antenatal HBV Screening information system, a nationwide mandatory reporting system. The proportions of HBsAg and HBeAg positive women from the two cohorts were compared.

Results: The numbers of pregnant women enrolled for the study were 252,335 in1995, and 145,324 in 2006. The mean ages of the two cohorts were 27.7, and 28.7 years, respectively. The overall prevalence of HBsAg among pregnant women decreased from 16.3% in 1995 to 10.9% in 2006 ($p < 0.001$). The overall prevalence of HBeAg-positive subjects decreased from 4.9% in 1995 to 2.9% in 2006 ($p < 0.001$). In 1995, the prevalences of HBsAg among subjects aged 16—20, 21—25, and 26—45 were 17.4%, 17.2%, and 16.0%, respectively. In 2006, the prevalences of HBsAg among subjects aged 16—20, 21—25, and 26—45 were 3.6%, 8.2%, and 11.7%, respectively.

Conclusion: In Taiwan, the HBsAg- and HBeAg- positive rates among pregnant women significantly decreased after the implementation of HBV vaccination and immunoprophylaxis programs. By continuing the current national immunization strategy to interrupt vertical transmission, we can further decrease HBV infection in the population of Taiwan.

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16.030

Identifying Influenza Among Influenza-like Illness Cases Presented to Emergency Department of a Tertiary Hospital Over One Year Period

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Background: Influenza is a common nosocomial infection and early recognition of cases presenting to hospital is essential in preventing nosocomial transmission.

Objective: At an Australian teaching hospital, we aimed to quantify the proportion of influenza among influenza like illness cases presented to emergency department, characteristics of laboratory confirmed influenza cases and infection control issues in relation to these cases in emergency department.

Methodology: A retrospective review of all Influenza like illness cases presented to Royal Melbourne Hospital Emergency Department from 1st January 2006 to 31st December 2006 was conducted.

Results: A total of 1160 Influenza like illness patients were identified with only 13 laboratory confirmed influenza cases. Only 4.2% of Influenza like illness patients were tested for influenza. Combination symptoms of fever and cough have positive predictive value of 73% and negative predictive value of 87% for laboratory confirmed influenza. Myalgia did not correlate with a diagnosis of influenza. Majority (85%) of Influenza like illness patients received inadequate isolation in emergency department. Patients were more likely to be tested for influenza during winter season and if they had fever, underlying co-morbidity or a history of recent travel ($p < 0.05$). Decision to isolate patients were influenced by patient's age $\geq$65 years, travel history, underlying co-morbidity and presenting symptoms of fever, shortness of breath and headache.

Conclusion: This study showed influenza cases were likely under-diagnosed and rarely received adequate isolation while in the emergency department. We suggest patients presented with symptoms of fever and cough to emergency department should be put on appropriate and prompt infection control measures as well as be screened for influenza.

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16.031

Risk Factors of Mumps Outbreak in a Primary School, Bangkok, 2007

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Keywords: Mumps; MMR; Outbreak; School; Bangkok

Background: On 10th September 2007, the Bureau of Epidemiology received a report of 24 suspect mumps cases in a school. An investigation was promptly initiated with objectives to describe epidemiologic characteristics of cases, to determine risk factors and source of infection and to implement appropriate control measures.

Methods: Active case finding was performed by screening of mumps cases in School A. A suspected case was defined as any person in School A who had swelling/tenderness at one or more salivary glands between 1st August and 15th September 2007. Thirty-nine saliva and urine samples were collected and sent for viral isolation. Anti-mumps IgM antibody was tested in 55 samples. A retrospective cohort was done in 207 grade 6th students. Environmental survey of classroom, cafeterias were carried out. Univariate and multivariate analyses were performed to identify risk factors of infection.

Results: Overall attack rate was 3.0% among students and teachers in School A (57/1899). The highest attack was in 6th graders (14.61%). The median age of cases was 11 years (range 7—27 years). Common symptoms included submaxillary gland swelling, parotid gland swelling, fever,

and sublingual gland swelling (54.1%, 37.3%, 31.2% and 29.5% respectively). Direct contact with secretion or saliva (adjusted OR = 5.8, 95%CI = 1.9—17.4) and sharing glasses (adjusted OR = 3.9, 95%CI = 1.2—12.5) were identified as risk factors of disease transmission. Of 55 samples tested, 21 were IgM positive. Mumps virus J genotype was isolated in 2 saliva specimens for the first time. MMR vaccines were administered to 806 non-sick students.

Conclusions: A mumps outbreak occurred among students and teachers in School A. Early investigation and control activities curtailed the outbreak.

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16.032

Molecular Characterization of the VP6 and VP7 Genes of Rotavirus Isolated from Clinical Samples from Klang Valley, Malaysia

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Background: Group A rotaviruses are the major etiological agents of acute viral gastroenteritis in children with infection prevalence in Malaysia ranges from 6 to 40%. VP6 is responsible for rotavirus classification into groups and subgroups and VP7 is responsible in the induction of neutralizing and protective antibodies. The objective of this study was to characterize the nucleotide and deduced amino acid sequence of VP6 and VP7 genes in rotavirus isolates from samples collected in the Klang Valley, Malaysia and make comparisons against known sequences.

Methods: Faecal sample collection (Subang Jaya Medical Centre, Selangor, Malaysia); rotavirus screening by latex agglutination (Microgen, UK); dsRNA genome extraction (QIAamp® Viral RNA Kit); genome separation by electrophoresis in TAE buffered agarose gel; excision of segment 6 and 9 and isolation (Genispin); RT-PCR with primer pairs Beg 6/End 6 for VP6 gene and Beg9/End9 for VP9 gene: amplicons was separated, purified and ligated to pGEM®-T Easy Vector System (Promega); clones screening and gene sequencing on an ABI automated DNA sequencer, sequence and multiple alignments; phylogenetic analysis; Restriction fragment length polimorfisme (RFLP)-HaeIII, Sau961, BstyI.

Results: Only ten isolates known as HRUKM1-10 were successfully extracted and cloned for their partial VP6 gene and VP7 gene. Comparison of the nucleotide and deduced amino acid sequence with registered VP6 gene in the GenBank revealed that the local isolates have homologies of between 96—98% and 95—97% respectively within the group A rotaviruses. Phylogeny analysis showed close relatedness of the VP6 gene from isolates HRUKM 1, 6, 5 and 10 with 78% degree of confidence. VP7 gene from isolates HRUKM1, 2 and 5 have homologies of 96-98% for both DNA and amino acid sequences with G1 genotype. As for isolates HRUKM3 and 4, homologies of 95—97% with G3 serotype for both DNA and amino acid sequences were noted. The VP7 gene genotypes for all the isolates were confirmed by RFLP. All the partial sequences have been registered in GenBank with respective accession numbers for VP6 genes: EF028704/EU093981-EU093989 and VP7 genes: EU100945-EU100949.

Conclusion: This is the first report on the molecular characterization of VP6 and VP7 genes from Malaysia based on nucleotide and derived amino acid sequences. In this study, initial information on the genetic relatedness and nature of rotavirus circulating in Klang Valley is provided and can be use for epidemiology purposes.

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16.033

Epidemiology of Acute Viral Conjunctivitis at a Junior High School - October 2007

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Background: Acute conjunctivitis is a highly contagious disease that can quickly spread through the community. In October 2007, a junior high school reported an outbreak of acute conjunctivitis among its students and staff. We describe the epidemiology of the outbreak at this school.

Methods: A questionnaire was designed to identify persons who became ill with conjunctivitis. The questionnaire was distributed to all students and staff at the school on October 17, 2007. A case was defined as a person who had red eyes or physician diagnosed acute, non-allergic conjunctivitis lasting for at least one day. A secondary case was defined as a family member who became ill one to seven days after a student became ill. Conjunctival swabs were taken for viral culture.

Results: Of the 681 questionnaires distributed, the response rate was 93.2%. During September 1 and October 17, 2007, there were 246 cases of conjunctivitis (attack rate = 35.2%). Of these, 234 (95.1%) had red eyes, 184 (74.8%) had pain, 172 (70.0%) had increased tearing, and 48 (19.5%) had photophobia. Constitutional symptoms, mainly fever, were present in 32 (13.7%) cases. Of the 988 family members, 167 secondary cases were identified (secondary attack rate = 16.9%). The odds of a case being a first- or second-year student was higher than being a third-year student (odds ratio [OR] = 1.7; 95% confidence interval [CI]: 1.1—2.6 and OR = 2.5; 95% CI: 1.7—3.7, respectively). Virus was isolated from one of three conjunctival swabs taken, which yielded coxsackie A24 virus.

Conclusions: Coxsackie A24 virus caused acute conjunctivitis affecting 35.2% of the population at this school. The outbreak was controlled after instituting increased awareness of the epidemic, enhanced hand hygiene practices, and strengthened disinfection measures of shared equipments. Younger students were at increased risk of disease possibly as the result of socio-behavioral differences.

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